

TRACHEOSTOMY CARE

KEY VOCABULARY

The following terms are used in the care of patients with a tracheostomy:

- Laryngectomy - The removal of the larynx resulting in a permanent interruption of the oropharynx and the trachea.
- Stoma - A temporary or permanent surgical opening into the neck of a patient who has had a laryngectomy or tracheostomy. The stoma of a laryngectomy patient is large and round with edges of the tracheal lining attached to the skin. The stoma of a patient with a tracheostomy is usually no more than several millimeters and requires a tracheostomy tube to keep the airway open.
- Tracheostomy - A surgical opening into the trachea at the level of the second, third or fourth tracheal ring.
- Tracheostomy tube - A plastic or metal tube inserted into the tracheostomy opening which has either a single or double cannula and may be cuffed or uncuffed.

KEY CONCEPTS

An increased number of patients who have a temporary or permanent tracheostomy may be encountered in the prehospital setting. It is essential that the paramedic understands the nature of a tracheostomy, the problems encountered, and the interventions needed, so that appropriate airway management is provided.

Indications for a tracheostomy:

- Inadequate upper airway
- Respiratory insufficiency
- Excessive tracheobronchial secretions
- Poor gas transport across alveolar capillary membranes
- Prevention of aspiration due to damage to the glossopharyngeal nerve
- Prolonged mechanical ventilation
- Laryngectomy

Types of tracheostomy tubes/devices:

- Plastic with or without inner cannula
- Metal with inner cannula
- Metal tubes uncuffed
- Plastic tubes cuffed or uncuffed
- Olympic or Kistner tracheostomy button
- Speaking tracheostomy valve

Parts of a tracheostomy tube:

- Outer cannula
- Inner cannula
- Obturator
- Cuff

Accessories for tracheostomy tubes:

- Tracheostomy ties
- Connectors
- T-bar/blow-by device
- Tracheostomy (trach) collar
- Ventilators

Problems Encountered:

- Loss of oxygen supply
- Dislodgement of tracheostomy tube
- Occlusion of ventilator/T-Bar tubing
- Obstruction of tracheostomy tube
- Obstruction of a permanent stoma
- Malfunctioning ventilator

Patients who are ventilator dependent may be transported either with a ventilator or manually ventilated with a BV device.

Criteria for transporting with a ventilator:

- Person familiar with ventilator operation
- Oxygen source
- Power source
- Autovent

Criteria for performing manual ventilation during transport:

- No one familiar with ventilator operation
- No oxygen source available for ventilator
- No power source available for ventilator
- Emergency situation requiring immediate transport

Tracheostomy care for pediatric patients is the same as described for adults. The only accommodations that need to be made are:

- Instill only 2ml of NS to loosen secretions
- Keep head and neck in a neutral-sniffing position
- Usually has no inner cannula
- Use uncuffed tubes for infants and toddlers
- Determine size of endotracheal tube by using Broselow tape or nail of little finger
- Suction no more than 5 seconds

Tracheostomy tubes should not be removed unless the tube is obstructed or dislodged and the patient cannot be ventilated. The tracheostomy tube is removed as follows:

- Cut ties
- Grasp tube and guide it out of stoma
- Suction PRN

Replacing the tracheostomy tube or inserting an ET tube through the stoma should only be done if the patient cannot be manually ventilated with a BVM device or orally intubated. Procedure to Insert a tracheostomy or ET tube into a stoma or trachea is as follows:

- Prepare new tracheostomy (trach) or ET tube
- Position patient
- Suction the stoma and trachea
- Hold undefined stoma open as necessary
- Guide tube into the stoma and down the trachea
- Listen for air movement through the tube
- Ventilate with BV device
- Assess chest rise and breath sounds
- Secure tracheostomy (trach) ties
- Suction prn

Documentation required on EMS form:

- Patient problem
- Actions taken
- Type of tracheostomy (laryngectomy vs tracheostomy)
- Type of tracheostomy tube in place
- Type of ventilator transported
- Caregiver accompanying patient
- Reassessment of patient status
- Type of secretions suctioned
- Initial breath sounds need to be documented in this box and any changes need to be written in the comment section
- Oxygen concentration delivered
- Check the **S**uction box if patient was suctioned and note number of times suctioning was required. Describe secretions in comments section.
- Check either the **B/V/M** or **D. Valve/ATV** box and note how the patient was ventilated. If patient transported with own ventilator, note who accompanied patient in ambulance in the comment section.
- Check the appropriate boxes in the ET section if the patient had a tracheostomy tube replaced or if an ET tube was inserted. Explain circumstances in comment section.